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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,147

01/23/2004

Anurag Gupta

20040126-1

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06/28/2004

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EXAMINER

BLACKMAN, ROCHELLE ANN J

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/764,147

Applicant(s)

GUPTA ET AL.

Examiner

Rochelle Blackman

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2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04/01/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5-13, and 16-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Takezawa et al., U.S. Patent Application Publication No. 2001/0043311.

Regarding claims 1, 2, and 5-11, Takezawa discloses a “method for enhancing contrast in a digital projector”(see function of elements in FIGS. 1-13), comprising: “positioning a first optical component and a second optical component along a light path”(see function of 307R and 302Ri in FIG. 5), “said first optical component and said second optical component being separated by a gap”(see function of CL in FIG. 5); and “sealing a perimeter of said gap with a sealant”(see function of CL in FIG. 5 and pg. 7, paragraph [0120]); “evacuating said gap to provide substantially a vacuum in said gap”(see function of CL in FIG. 5); “wherein said sealant is positioned substantially along a perimeter of at least one of said first and second optical components”(see CL and 302Ri in FIG. 5); “wherein said gap is filled with a fluid”(see pg. 7, paragraph [0120]); “wherein said fluid has a refractive index substantially similar to a refractive index of at least one of said first and second optical components; wherein said fluid is a liquid; wherein said fluid is a gel, wherein said gap is filled with an adhesive; wherein

said adhesive has a refractive index matching at least one of said first and second optical components”(see pg. 7, paragraphs [0118] and [0120]).

Regarding claims 12, 13, and 16-22, Takezawa discloses a “system for enhancing contrast in a digital projector”(see FIGS. 1-13), comprising: a “first optical component and a second optical component positioned along a light path and being separated by a gap”(see 307R and 302Ri of FIG. 5); and a “sealant adapted to seal said gap substantially along a perimeter of said gap”(see CL of FIG. 5); “wherein said gap is evacuated to provide substantially a vacuum in said gap”(see CL of FIG. 5); “wherein said sealant is positioned along a perimeter of at least one of said first and second optical components”(see CL and 302Ri in FIG. 5); “wherein said gap is filled with a fluid”(see pg. 7, paragraph [0120]); wherein said fluid has a refractive index substantially similar to a refractive index of at least one of said first and second optical components; wherein said fluid is a liquid; wherein said fluid is a gel; wherein said gap is filled with an adhesive; wherein said adhesive has a refractive index matching at least one of said first and second optical components”(see pg. 7, paragraphs [0118] and [0120]).

Regarding claims 23 and 24, Takezawa discloses a “system for enhancing contrast in a digital projector”(see FIGS. 1-13), comprising: a “first optical component and a second optical component positioned along a light path and being separated by a gap”(see 307R and 302Ri of FIG. 5); and “means for sealing said gap substantially along a perimeter of said gap”(see CL of FIG. 5); “wherein said gap is evacuated to provide substantially a vacuum in said gap”(see CL of FIG. 5).

Regarding claims 25 and 26, Takezawa discloses a “system for enhancing contrast in a digital projector”(see FIGS. 1-13), comprising: a “first optical component and a second optical component positioned along a light path and being separated by a gap”(see 307R and 302Ri of FIG. 5); and “means for restricting airflow through said gap; wherein said gap is evacuated to provide substantially a vacuum in said gap”(see CL of FIG. 5).

Regarding claims 27 and 28, Takezawa discloses a “digital projector”(see FIGS. 1-13), comprising: “at least two optical components positioned along a light path”(see 307R and 302Ri of FIG. 5); a “gap formed between two of said optical components; and a sealant adapted to seal said gap substantially along a perimeter of said gap; wherein said gap is evacuated to provide substantially a vacuum in said gap”(see CL of FIG. 5).

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-28 are rejected under 35 U.S.C. 102(e) as being anticipated by  
Kawano, U.S. Patent No. 6,698,902.

Regarding claims 1-11, Kawano discloses a “method for enhancing contrast in a digital projector”(see function of elements in FIG. 3), comprising: “positioning a first

optical component and a second optical component along a light path”(see function of 50 and 61 in FIG. 3), “said first optical component and said second optical component being separated by a gap; and sealing a perimeter of said gap with a sealant; evacuating said gap to provide substantially a vacuum in said gap (see function of 64 in FIG. 3); “wherein said first optical component is a digital micro-mirror device cover plate and said second optical component is a total internal reflection prism”(see 61 and 50 of FIG. 3); “wherein said sealant is positioned substantially along a perimeter of at least one of said first and second optical components; wherein said gap is filled with a fluid”(see 64 of FIG. 3); “wherein said fluid has a refractive index substantially similar to a refractive index of at least one of said first and second optical components; wherein said fluid is a liquid; wherein said fluid is a gel; wherein said gap is filled with an adhesive; wherein said adhesive has a refractive index matching at least one of said first and second optical components”(see 64 of FIG. 3 and col. 10, lines 31-35).

Regarding claims 12-22, Kawano discloses a “system for enhancing contrast in a digital projector”(see FIG. 3), comprising: a “first optical component and a second optical component positioned along a light path and being separated by a gap”(see 50 and 61 of FIG. 3); and a “sealant adapted to seal said gap substantially along a perimeter of said gap; wherein said gap is evacuated to provide substantially a vacuum in said gap”(see 64 of FIG. 3); “wherein said first optical component is a digital micro-mirror device cover plate and said second optical component is a total internal reflection prism”(see 61 and 50 of FIG. 3), “wherein said sealant is positioned along a perimeter of at least one of said first and second optical components; wherein said gap is filled with a

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fluid. 18; wherein said fluid has a refractive index substantially similar to a refractive index of at least one of said first and second optical components; wherein said fluid is a liquid; wherein said fluid is a gel; wherein said gap is filled with an adhesive; wherein said adhesive has a refractive index matching at least one of said first and second optical components”(see 64 of FIG. 3 and col. 10, lines 31-35).

Regarding claims 23 and 24, Kawano discloses a “system for enhancing contrast in a digital projector”(see FIG. 3), comprising: a “first optical component and a second optical component positioned along a light path and being separated by a gap”(see 50 and 61 of FIG. 3); and “means for sealing said gap substantially along a perimeter of said gap; wherein said gap is evacuated to provide substantially a vacuum in said gap”(see 64 of FIG. 3)

Regarding claims 25 and 26, Kawano discloses a “system for enhancing contrast in a digital projector”(see FIG. 3), comprising: a “first optical component and a second optical component positioned along a light path and being separated by a gap”(see 50 and 61 of FIG. 3); and “means for restricting airflow through said gap; wherein said gap is evacuated to provide substantially a vacuum in said gap”(see 64 of FIG. 3)

Regarding claims 27 and 28, Kawano discloses a digital projector”(see col. 1, lines 17-19), comprising: at “least two optical components positioned along a light path”(see 50 and 61 of FIG. 3); a “gap formed between two of said optical components; and a sealant adapted to seal said gap substantially along a perimeter of said gap; wherein said gap is evacuated to provide substantially a vacuum in said gap”(see 64 of FIG. 3).

***Conclusion***

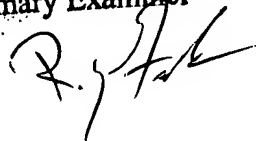
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RB

**Rodney Fuller**  
**Primary Examiner**

A handwritten signature in black ink, appearing to be 'R. Fuller', written over the printed name of the primary examiner.